

REMARKS

Claims 1 through 21 are currently pending in the application.

This amendment is in response to the Office Action of May 17, 2007.

Information Disclosure Statements

Applicant notes the filing of Information Disclosure Statements herein on February 25, 2007 and March 2, 2007 and notes that copies of the PTO/SB/08A were not returned with the outstanding Office Action. Applicant respectfully requests that the information cited on the PTO/SB/08A forms be made of record herein.

35 U.S.C. § 112 Claim Rejections

Claims 1 through 12 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

Applicant asserts that specification paragraphs numbered [0024] through [0039] clearly sets forth that a laser is used for the methods set forth in claims 1 through 12. Applicant asserts that the claimed inventions set forth in claims 1 through 12 particularly point out and distinctly claim the subject matter of the invention to comply with the provisions of 35 U.S.C. § 112. Therefore, presently amended claims 1 through 12 are allowable under the provisions of 35 U.S.C. § 112.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on Applicant's Admitted Prior Art (AAPA) in view of Oh (U.S. Patent 5,352,107) and in view of Taniguchi et al. (U.S. Patent 6,221,690) and in view of Tanimoto (U.S. Patent 4,586,822)

Claims 1 through 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Oh (U.S. Patent 5,352,107) and in view of Taniguchi et al. (U.S. Patent 6,221,690) and in view of Tanimoto (U.S. Patent 4,586,822). Applicant respectfully traverses this rejection, as hereinafter set forth.

Applicant asserts that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicant has amended the claimed invention to clearly distinguish over the cited prior art.

Turning to the cited prior art, the AAPA teaches or suggests the use of a laser to remove resist from substrates.

The Oh reference teaches or suggests the use of an apparatus for sensing incomplete molding of an automold system in process for molding semiconductor packages.

Taniguchi describes a semiconductor package and production method thereof. Specifically, Taniguchi describes a semiconductor package production method where a solder resist 3 is formed on the top surface side of a BGA (ball and grid array) substrate (col. 3, lines 35-36). This solder resist is preferably one that can be removed by a laser (col. 4, line 40-42). The laser can be selected from the fundamental wave of a YAG laser, the second harmonic, the third harmonic, and fourth harmonic of the YAG laser, an excimer laser, and so on (col. 5, lines 47-51). Lastly, an encapsulating resin can be used to encapsulate the substrate (col. 6, lines 57+).

The Tanimoto reference teaches or suggests the use of a laser for inspecting a substrate for foreign particles.

Applicant asserts that any combination of the Applicant's Admitted Prior Art (AAPA) in view of the Oh reference and in further view of the Taniguchi et al. reference and in yet further view of the Tanimoto reference does not establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 because any combination of such prior art does not teach or suggest all the

claim limitation of the claimed inventions. Applicant asserts that any combination of the Applicant's Admitted Prior Art (AAPA) in view of the Oh reference and in further view of the Taniguchi et al. reference and in yet further view of the Tanimoto reference does not teach or suggest the claim limitations of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 calling for "a laser in the automolding system removing at least a portion of the layer of resist and at least a portion of the contaminants from the substrate and scanning the substrate in the automolding system for irregularities from removing the layer of resist; and a cooling system for the laser", "a laser in the molding system removing at least a portion of the layer of resist and contaminants from the substrate and scanning the substrate using a laser in the automolding system for irregularities from removing the layer of resist; and a cooling system for the laser", "a laser in the molding system cutting a portion of the layer of resist and removing at least a portion of the layer of resist and some contaminants from the substrate using a laser in molding system; and a cooling system for the laser", "a laser in the automolding system cutting a portion of the layer of resist and removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the automolding system; and a cooling system for the laser in the molding system", "a laser in the molding system removing at least a portion of the layer of resist and at least some of the contaminants from the substrate and marking a surface of the semiconductor die using the laser in the molding system; and a cooling system for the laser in the molding system", "a laser in the system having more than one transmission unit for molding removing at least a portion of the layer of resist and at least some of the contaminants from the substrate and marking a surface of the semiconductor device using the laser in the automolding system; and a cooling system for the laser in the molding system", and "a laser in the automolding system having more than one transmission unit cutting a portion of the layer of resist; removing at least a portion of the layer of resist and at least some of the contaminants from the substrate and marking a surface of the semiconductor device using the laser in the automolding system; and a cooling system for the laser in the automolding system".

Applicant asserts that any combination of the cited prior art fails to teach or suggest such claim limitations of the claimed inventions of present amended independent claims 1, 4, 7, 10, 13, 16, and 19. Applicant further asserts that to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggest by the prior art. *In re Royke*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All word in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2D 1382, 165 USPQ 494 (CCPA 1970). MPEP § 2143.03

Applicant asserts that the claim limitations of the claimed inventions of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 must be considered when considering the claimed inventions against the prior art.

Applicant respectfully submits there is no suggestion or motivation, either the AAPA, the Oh reference, the Taniguchi, or the Tanimoto reference or in combination thereof to modify any of the reference or to combine reference teachings to form the claimed invention to establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103. The AAPA merely teaches the use of a laser for removing resist. The Oh reference merely teaches or suggests the use of automolding systems while the Taniguchi reference does not suggest or provide evidence showing that it's teachings of laser removal of resist, when combined with an automolding system, would provide a more efficient automation in manufacture while the Tanimoto reference merely uses a laser to inspect substrates.

Applicant assert that absent a reason why one of ordinary skill in the art using "common sense" would seek to combine the teachings or suggestions of the cited prior art to make the claimed combination of the cited prior art to solve a problem, the proposed combination of the cited prior art does not establish a *prima facie* case of obviousness under 35 U.S.C. § 103. *Takeda Chem Indus., Ltd. V. Alphapharm Pty., Ltd. Fed. Cir., No. 06-1329, 6/28/07*. Applicants assert that the claim limitations of the claimed inventions of presently amended independent claims 1, 4, 7, and 10 are not taught or suggested by any combination of the cited prior art and there is no reason for any combination of the proposed combination of the cited prior art to solve any problem. Therefore, presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 are allowable as well as the dependent claims therefrom.

Applicant respectfully submits that the proposed analysis of the cited prior art is merely hindsight analysis and is improper. Applicant asserts that there is no suggestion, other than solely in Applicant's specification, that the combined teachings of the AAPA, the Oh reference, the Taniguchi reference, and the Tanimoto reference will have a reasonable expectation of success. Additionally, the only suggestion to combine the teachings of the Oh reference and the Taniguchi reference is in Applicant's specification, which thing cannot be relied upon to form an obviousness rejection. Such a rejection is neither within the ambit nor purview of 35 U.S.C. § 103 and cannot establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103. Further, Applicant asserts that any combination of such prior art cannot and does not teach or suggest the claim limitations of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 because any rejection based on any combination of such prior art would be a hindsight reconstruction of the presently claimed invention by picking and choosing elements and claim limitations based solely upon Applicant's disclosure because the cited prior art is devoid of any teaching or suggestion for any combination thereof. Since all rejections of the claimed inventions are based upon the AAPA, the Oh reference, the Taniguchi reference, and the Tanimoto reference, Applicant asserts that the use of such prior art is *prima facie* evidence that there is no prior art that contains any teaching or suggestion of the claim limitations of the claimed inventions of independent claims 1, 4, 7, 10, 13, 16, and 19, otherwise, other individual prior art references would have been used in any rejection, which references would teach or suggest the claimed inventions.

For these reasons, Applicant respectfully submits that, under 35 U.S.C. § 103, independent claims 1, 4, 7, 10, 13, 16, and 19 and the dependent claims therefrom are allowable over the combination of the AAPA, the Oh reference, the Taniguchi reference, and the Tanimoto reference because, at the very least, they do not teach or suggest all the claim limitations, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103.

Obviousness Rejection Based on Applicant's Admitted Prior Art (AAPA) in view of Takeyama et al. (Japanese Patent No. 404113663A) in view of Oh (U.S. Patent 5,352,107) and in view of Tanimoto (U.S. Patent No. 4,586,822)

Claims 1 through 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's Admitted Prior Art (AAPA) in view of Takeyama et al. (Japanese Patent No. 404113663A) in view of Oh (U.S. Patent 5,352,107) and in view of Tanimoto (U.S. Patent 4,586,822). Applicant respectfully traverses this rejection, as hereinafter set forth.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicant has amended the claimed invention to clearly distinguish over the cited prior art.

Applicant asserts that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

Turning to the cited prior art, the AAPA teaches or suggests the use of a laser to remove resist from substrates.

The *Ibiden Co Ltd* reference (the 663 reference) teaches or suggests using laser to remove burrs from a lead frame having an electronic component as subsequently sealing a portion of the lead frame and electronic component in a transfer molding machine.

The Oh reference teaches or suggests the use of an apparatus for sensing incomplete molding of an automold system in process for molding semiconductor packages.

The Tanimoto reference teaches or suggests the use of a laser for inspecting a substrate for foreign particles.

Applicant asserts that any combination of the Applicant's Admitted Prior Art (AAPA) in view of the 663 reference in further view of the Oh reference and in yet further view of the Tanimoto reference does not establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 because any combination of such prior art does not teach or suggest all the claim limitation of the claimed inventions. Applicant asserts that any combination of the Applicant's Admitted Prior Art (AAPA) in view of the 663 reference in further view of the Oh reference and in yet further view of the Tanimoto reference does not teach or suggest the claim limitations of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 calling for "a laser in the automolding system removing at least a portion of the layer of resist and at least a portion of the contaminants from the substrate and scanning the substrate in the automolding system for irregularities from removing the layer of resist; and a cooling system for the laser", "a laser in the molding system removing at least a portion of the layer of resist and contaminants from the substrate and scanning the substrate using a laser in the automolding system for irregularities from removing the layer of resist; and a cooling system for the laser", "a laser in the molding system cutting a portion of the layer of resist and removing at least a portion of the layer of resist and some contaminants from the substrate using a laser in molding system; and a cooling system for the laser", "a laser in the automolding system cutting a portion of the layer of resist and removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the automolding system; and a cooling system for the laser in the molding system", "a laser in the molding system removing at least a portion of the layer of resist and at least some of the contaminants from the substrate and marking a surface of the semiconductor die using the laser in the molding system; and a cooling system for the laser in the molding system", "a laser in the system having more than one transmission unit for molding removing at least a portion of the layer of resist and at least some of the contaminants from the substrate and marking a surface of the semiconductor device using the laser in the automolding system; and a cooling system for the laser in the molding system", and "a laser in the automolding system having more than one transmission unit cutting a portion of the layer of resist; removing at least a portion of the layer of resist and at least some of the contaminants

from the substrate and marking a surface of the semiconductor device using the laser in the automolding system; and a cooling system for the laser in the automolding system”.

Applicant asserts that any combination of the cited prior art fails to teach or suggest such claim limitations of the claimed inventions of present amended independent claims 1, 4, 7, 10, 13, 16, and 19. Applicant further asserts that to establish a *prima facie* case of obviousness of a claimed invention, all the claim limitations must be taught or suggest by the prior art. *In re Royke*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All word in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 f.2D 1382, 165 USPQ 494 (CCPA 1970). MPEP § 2143.03

Applicant asserts that the claim limitations of the claimed inventions of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 must be considered when considering the claimed inventions against the prior art.

Applicant respectfully submits there is no suggestion or motivation, in either the AAPA, the 663 reference, the Oh reference, or the Tanimoto reference or in combination thereof to modify any of the reference or to combine reference teachings to form the claimed invention to establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103. The AAPA merely teaches the use of a laser for removing resist. The 663 reference merely teaches or suggests suggests using laser to remove burrs from a lead frame having an electronic component as subsequently sealing a portion of the lead frame and electronic component in a transfer molding machine. The Oh reference merely teaches or suggests the use of automolding sytems while the Tanimoto reference merely uses a laser to inspect substrates.

Applicant assert that absent a reason why one of ordinary skill in the art using “common sense” would seek to combine the teachings or suggestions of the cited prior art to make the claimed combination of the cited prior art to solve a problem, the proposed combination of the cited prior art does not establish a *prima facie* case of obviousness under 35 U.S.C. § 103. *Takeda Chem Indus., Ltd. V. Alphapharm Pty., Ltd. Fed. Cir., No. 06-1329, 6/28/07*. Applicants assert that the claim limitations of the claimed inventions of presently amended independent claims 1, 4, 7, and 10 are not taught or suggested by any combination of the cited prior art and there is no reason for any combination of the proposed combination of the cited prior art to solve

any problem. Therefore, presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 are allowable as well as the dependent claims therefrom.

Applicant respectfully submits that the proposed analysis of the cited prior art is merely hindsight analysis and is improper. Applicant asserts that there is no suggestion, other than solely in Applicant's specification, that the combined teachings of the AAPA, the 663 reference, the Oh reference, and the Tanimoto reference will have a reasonable expectation of success. Additionally, the only suggestion to combine the teachings of the AAPA, the 663 reference, the Oh reference and the Tanimoto reference is in Applicant's specification, which thing cannot be relied upon to form an obviousness rejection. Such a rejection is neither within the ambit nor purview of 35 U.S.C. § 103 and cannot establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103. Further, Applicant asserts that any combination of such prior art cannot and does not teach or suggest the claim limitations of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 because any rejection based on any combination of such prior art would be a hindsight reconstruction of the presently claimed invention by picking and choosing elements and claim limitations based solely upon Applicant's disclosure because the cited prior art is devoid of any teaching or suggestion for any combination thereof. Since all rejections of the claimed inventions are based upon the AAPA, the Oh reference, the 663 reference, and the Tanimoto reference, Applicant asserts that the use of such prior art is *prima facie* evidence that there is no prior art that contains any teaching or suggestion of the claim limitations of the claimed inventions of independent claims 1, 4, 7, 10, 13, 16, and 19, otherwise, other individual prior art references would have been used in any rejection, which references would teach or suggest the claimed inventions.

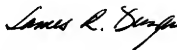
For these reasons, Applicant respectfully submits that, under 35 U.S.C. § 103, independent claims 1, 4, 7, 10, 13, 16, and 19 and the dependent claims therefrom are allowable over the combination of the AAPA, the 663 reference, the Oh reference, and the Tanimoto reference because, at the very least, they do not teach or suggest all the claim limitations, there is no suggestion or motivation, either in the references themselves or in the knowledge generally

available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103.

Applicant submits that claims 1 through 21 are clearly allowable over the cited prior art.

Applicant requests the allowance of claims 1 through 21 and the case passed for issue.

Respectfully submitted,



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